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THE BAYLOR BULLETIN

Baylor Business Studies

TWENTY-THIRD ISSUE

ACCOUNTING AND A THIRTEEN PERIOD CALENDAR

By

RODERICK L. HOLMES, M.B.A., C.P.A.

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INTRODUCTION

The nineteenth and twentieth centuries have embraced various attempts to revise our present calendar. Our present calendar, generally used through the world, is called the Gregorian calendar since it is the reformed calendar introduced by Pope Gregory XIII in 1582 A.D.[1]

The demands of complex modern living and of intricate modern business are for a regularized and efficient calendar. The Gregorian calendar is cumbersome, and is a standing source of confusion and misunderstanding. It seems apparent that a calendar developed in an arbitrary and unscientific manner, founded partly upon superstitions and political considerations, no longer serves with adequacy as a means of controlling modern living and modern business.[2]

The shortcomings of the Gregorian calendar have been recognized and many proposed revisions of it have been advanced. These proposed revisions have been presented by individuals, organized calendar reform groups, groups of business men, and by world groups such as the League of Nations and the current United Nations' Economic and Social Council.

This study is limited to (1) a review of the outstanding defect of the Gregorian calendar and its ensuing problems from the standpoint of business operations, (2) a review of the main characteristics of the two proposed calendar reforms that have received most consideration for world adoption, and (3) some procedures followed (in the absence of a universally adopted reformed calendar) in operating thirteen-period calendars currently used by many business firms.

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[1]Elisabeth Achelis, *The Calendar for Everybody* (New York: G. P. Putnam's Sons, 1943), pp. 39-42 and 53-58.

[2]Julia E. Johnsen, "Thirteen-Month Calendar," *The Reference Shelf*, Vol. VI, No. 4 (New York: The H. W. Wilson Copmany, 1929), pp. 10-20.

OUTSTANDING DEFECT IN THE GREGORIAN CALENDAR

The outstanding defect in the present calendar is its unceasing changeability caused primarily by wandering holidays, months of unequal length, and the treatment of the extra day in leap year. There is no one year that is like the previous or the following year. Following the Gregorian calendar causes one to use fourteen different kinds of years and twenty-eight different types of months, none of which follow each other in consecutive order.[3] Christmas can fall upon any one of the seven days of the week, and Easter Sunday, in a series of years, will wander over a period of five weeks.[4]

This characteristic of changeability introduces many calendar problems in the social, religious and business life of man. However, this study emphasizes the paramount problems confronting accountants and business executives—the lack of comparable data on interim financial statements and statistical reports, and the additional effort required to "split" weekly data, such as weekly payroll, where the ending of a week does not coincide with the ending of a month.[5]

The lack of comparable accounting data accumulated on the Gregorian calendar basis is quite evident when one analyzes certain variances in terms of percentages:

1. Variation in number of days in two consecutive months:

March, 1955	31 days
February, 1955	28 days
Variance	3 days
Percentage variance (Ferbruary as base)	10.7

2. Variation in number of working days (Monday through Friday) in three consecutive calendar months:

Year 1955	No. of Working Days	Days Variance Compared to February	Percentage of Variance (February as base)
January	21	1	5.0
February	20	x	x
March	23	3	15.0

[3]Elisabeth Achelis, "The Stabalized World Calendar," *Journal of Calendar Reform*, Vol. XXIII (December, 1953), p. 161.

[4]*Supra*, note 2, p. 11.

[5]M. B. Folsom, "The Thirteen-Month Calendar," *Harvard Business Review*, Vol. VIII, No. 2 (January, 1930), pp. 218-19.

3. Variation in length of quarters within a year:

Year 1955	No. of Days	Days Variance Compared to First Quarter	Percentage of Variance (First Quarter as base)
First quarter	90	x	x
Second quarter	91	1	1.1
Third quarter	92	2	2.2
Fourth quarter	92	2	2.2

4. Variation in number of days in the semi-annual periods of one year:

Last six months, 1955	184 days
First six months, 1955	181 days
Variance	3 days
Percentage variance (First six months as base)	1.7

5. Variation in number of "weighted sales days" for the same month of two consecutive years: (This comparison is based upon the statistics of a grocery chain operation which reports that twenty-five per cent of a week's sales are made during Monday through Wednesday and seventy-five per cent of a week's sales are made during Thursday through Saturday).[6]

	Sales Days Month of March		Weighted* Sales Days Month of March	
	1955	1956	1955	1956
25% of Sales:				
Monday	4	4		
Tuesday	5	4		
Wednesday	5	4		
	14	12	14	12
75% of Sales:				
Thursday	5	5		
Friday	4	5		
Saturday	4	5		
	13	15	39	45
Total	27	27	53	57

Variance in number of "weighted sales days," March, 1956, more than March, 1955 ---------- 4 days

Percentage of variance in "weighted sales days" (March, 1955, as base) ---------- 7.5

* Since the days in the last half of the week produce three

[6]Information from letter received from the Chief Statistician, Kroger Company, Cincinnati, Ohio, January, 1955.

times more sales dollars than the days in the first half of the week, the totals of the days, Thursday through Saturday, have been multiplied by three.

The variance in data for the same month in non-consecutive years is even greater. For example, March, 1956, has 11.8 per cent more "weighted sales days" than March, 1954. Also, this variance can become more pronounced when one of the days of the last half of a week happens to be a wandering holiday, such as Christmas Day, falling on Saturday, December 25, 1954.

6. Variation in number of "weighted sales days" in two consecutive months determined by the same techniques used in 5 immediately preceding:
   A. March, 1956, has 16.3 per cent more "weighted sales days" than February, 1956, this occurring in a leap year when February has an extra day.
   B. April, 1955, has 8.0 per cent more "weighted sales days" than May, 1955, even though April is a shorter month by one day.
   C. December, 1955, has 14.0 per cent more "weighted sales days" than November, 1955.

None of the preceding percentage variances include any adjustment for nationally observed holidays.

Variations, such as those just enumerated, have caused many business enterprises to abandon the Gregorian calendar as the basis for accumulation of accounting and statistical data. These businesses have adopted a thirteen-period calendar which accumulates accounting and statistical data that are comparable without adjustment for calendar irregularities. While the thirteen-period calendar has been introduced and used, some calendar reformers have continued their efforts toward the world-wide adoption of a reformed calendar. Since most complete reform with greatest uniformity can be achieved by a universally adopted reformed calendar, two of the proposed universal calendars are reviewed before presenting the thirteen-period calendar procedures.

UNIVERSAL CALENDAR REFORMS

A number of reformed calendars have been proposed for universal adoption but these proposals have been narrowed to the two which seem to have the least number of tricky artificialities. These two plans are for a twelve-month, equal-quarter World Calendar, and a thirteen-month calendar.[7]

The World Calendar, Figure 1, is the favored one of the two

[7]Lacy Donnell, "Let's End Our Calendar Chaos," *The Saturday Review*, Vol. XXXVII, No. 51 (December, 1954), pp. 9, 35-37.

1st Quarter

January						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	:	:	:	:

February						
S	M	T	W	T	F	S
:	:	:	1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	:	:

March						
S	M	T	W	T	F	S
:	:	:	:	:	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

2nd Quarter

April						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	:	:	:	:

May						
S	M	T	W	T	F	S
:	:	:	1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	:	:

June						
S	M	T	W	T	F	S
:	:	:	:	:	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

(W-Leap Year Day)

3rd Quarter

July						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	:	:	:	:

August						
S	M	T	W	T	F	S
:	:	:	1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	:	:

September						
S	M	T	W	T	F	S
:	:	:	:	:	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

4th Quarter

October						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	:	:	:	:

November						
S	M	T	W	T	F	S
:	:	:	1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	:	:

December						
S	M	T	W	T	F	S
:	:	:	:	:	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

(W-Worldsday)

Fig. 1.—World Calendar

reformed calendar plans mentioned above.[8] Its outstanding characteristics may be outlined as follows:[9]

1. Every year is the same.
2. The quarters are equal; each quarter has exactly ninety-one days, thirteen weeks, three months; the four quarters are identical in form.
3. Each month has twenty-six weekdays, plus Sundays.
4. Each year begins on Sunday, January 1; each working year begins on Monday, January 2.
5. Each quarter begins on Sunday, ends on Saturday.
6. The calendar is stabilized and made perpetual, by ending the year with Worldsday, a year-end World Holiday. Leap Year Day is similarly added at the end of the second quarter of every fourth year, and is another World Holiday.

Use of the proposed World Calendar would correct, either partially or completely, the previously reviewed faults of the Gregorian calendar. The extent of such correction is summarized in a comparative analysis of the Gregorian calendar and the two proposed calendar reforms, which analysis is presented at the close of this section.

The thirteen-month calendar given consideration for universal adoption is presented in Figure 2.[10] Its chief characteristics are as follows:

1. Every year is the same.
2. Each year is made up of thirteen months—the extra month named Sol. There is no natural or automatic division of the calendar into quarters or half-years.
3. Each month has the same number of days—there being the same number of Sundays and weekdays in each month.
4. Each month begins on Sunday and ends on Saturday.
5. Each year begins on Sunday, January 1; each working year begins on Monday, January 2.
6. The calendar is stabilized and made perpetual by ending the year with Year Day. Leap Day is added every fourth year at the end of June. These days may be treated as business holidays in the same manner as in the proposed World Calendar.[11]

The use of this proposed thriteen-month calendar would correct all of the previously reviewed faults found with the Gregorian calendar—except as the absence of quarterly and semi-annual periods might be interpreted as non-correction. The extent of

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[8] *Ibid.*, pp. 35-37.
[9] *Supra*, note 3, p. 144.
[10] *Supra*, note 1, p. 52.
[11] *Manual of the Thirteen-Period Business Calendar* (Rochester, New York: The International Fixed Calendar League, March, 1934), p. 31.

January

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28

February

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28

March

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28

April

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28

May

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28

June

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28

Leap Day
June 29

Sol

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28

July

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28

August

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28

September

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28

October

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28

November

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28

December

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28

Year Day
December 29

Fig. 2.—Thirteen-Month Calendar

such correction on incomparable accounting data is summarized in a comparative analysis that follows.

The problem of "splitting" weekly data would not be eliminated by the World Calendar as it retains that Gregorian calendar characteristic of having months that are not exact multiples of the week. The problem would be completely corrected under the thirteen-month calendar only if the data are accumulated on weekly periods ending on Saturday. The important point is that the thirteen-month calendar is the only one of the two proposed reforms that offers this possibility of eliminating the "splitting" of weekly data.

The chief fault of the Gregorian calendar from the business point of view is the lack of comparable accounting and statistical data. The extent to which this fault is corrected under the proposed reformed calendars is shown by restating the percentage variances developed previously from the Gregorian calendar, and by showing the percentage variances for the same items under the reformed calendar proposals.

	Gregorian Calendar	World Calendar	13-month Calendar
(1) Percentage variation in number of days in two consecutive months — March, 1955, more than February, 1955.	10.7	—0—	—0—
(2) Percentage variation in number of working days (Monday-Friday) in three consecutive months, January, 1955, more than February, 1955;	5.0	—0—	—0—
March, 1955, more than February, 1955.	15.0	4.8*	—0—
(3) Percentage variation in length of quarters within a year; Second quarter more than First quarter, 1955;	1.1	—0—	**
Third and Fourth quarters more than First quarter, 1955.	2.2	—0—	**
(4) Percentage variation in length of semi-annual periods; last half, 1955, more than first half, 1955.	1.7	—0—	—0—
(5) Percentage variation in number of "weighted sales days" for the same month of two consecutive years—March, 1956, more than March, 1955.	7.5	—0—	—0—
(6) Percentage variation in number of "weighted sales days" in two consecutive months:			
(a) March, 1956, more than February, 1956.	16.3	3.8	—0—
(b) April, 1955, more than May, 1955.	8.0	4.0***	—0—
(c) December, 1955, more than November, 1955.	14.0	3.8	—0—

* February, 1955, more than March, 1955.

** The 13-month calendar does not have a natural or automatic division into quarters or semi-annual periods.

*** May, 1955, more than April, 1955.

THE THIRTEEN-PERIOD CALENDAR

The use of either of the two proposed universal calendars just reviewed would correct many of the shortcomings found in the Gregorian calendar. However, these proposed calendars have little utility unless they are universally adopted. The possibility of universal adoption of one of these calendars is uncertain since the calendar reform problem has been under organized, world-wide surveillance for over thirty years without any definite decisions or agreements having been reached.[12]

In the absence of a universally adopted, reformed calendar, many businessmen have adopted the use of a thirteen-period calendar that gives them the same beneficial results—comparable data and non-splitting of weekly payroll—that would be obtainable under the thirteen-month calendar previously reviewed. In 1934, one caelndar reform group listed 654 business firms that were using the thirteen-period calendar, and in 1946, followed up this report with an addendum of 409 users.[13] While this is only one report of thirteen-period calendar users, the business importance of this calendar is apparent since many of the users cited in this report are large international manufacturing corporations and large chain stores.[14]

A thirteen-period calendar is presented in Figure 3.[15] Such a calendar might be referred to as an auxiliary calendar since it is 364 days of the Gregorian calendar divided into thirteen equal periods with the 365th day (the 365th and 366th days in leap years) to be accounted for under one of the plans reviewed later in this section. In operating a business under this calendar, the Gregorian calendar must serve as the basis since the Gregorian calendar is still the one generally recognized and followed in making many annual and quarterly reports and in dealing with individuals and many business associates.

The thirteen-period calendar can be started on any date and "splitting" of payroll can, therefore, be avoided by selecting the ending date of a period to coincide with the end of the payroll period.

Under the thirteen-period calendar plan, all periods are of the same length and, except for periods containing legal holidays, ac-

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[12]*Supra,* note 7, p. 35.
[13]*Supra,* note 11, pp. 17-29.
[14]*Ibid.*
[15]Taken from calendars furnished by J. Weingarten, Inc., Houston, Texas, January, 1955.

counting data are comparable without adjustment. Variations reflected by comparative reports from period to period can be traced to the operating causes without the prior necessity of determining to what exetent they are attributable to calendar irregularities.[16]

There are two general plans followed in operating a thirteen-period calendar. The first plan is to use the calendar for internal use only. For internal use, accounting data are accumulated in such a manner that managerial reports may be prepared every four weeks in accordance with the thirteen-period plan. Reports and financial statements for stockholders, governmental agencies, and other agencies are prepared in the usual manner on the Gregorian calendar basis. This plan may be applied in any degree between accounting for one single phase of business operations, such as the sales function, to the extent of being used in all phases of operations.[17]

The second general plan followed in operating a thirteen-period calendar is to use it as the basis for the sole accounting system in preparing all financial statements including the annual report to stockholders.[18] One corporation annual report to stockholders examined during this study prefixed its report with a statement that the report covered the thirteen-period year ended December 27, 1953.[19]

In initiating a thirteen-period calendar, under either of the two general plans, an important decision must be made as to the manner in which to account for the extra day or extra days. This is one of the most significant factors in any calendar reform plan. From his very beginning, man has been controlled by the ever-present measures of time known as the day and the season. Since the seasons are related to the earth's complete circuit around the sun, which takes, not 365 days, but 365.2422 days,[20] calendar reformers have been confronted with devising a scheme that will account for the fractional part of a day that arises each natural year, as well as the 365th day left after dividing the year into seven-day weeks.

There are two methods of accounting for these extra days. The plan used by the majority of firms is that of letting these

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[16]Lawrence P. Jennings, "Thirty Days Hath September," *N. A. C. A. Bulletin*, Vol. XXXII, No. 7 (March, 1951), p. 803.
[17]*Supra*, note 5, pp. 221-22.
[18]*Ibid.*
[19]*Eastman Kodak Company Annual Report*, 1953 (Rochester, New York), p. 2.
[20]*Supra*, note 1, p. 39.

Month	S	M	T	W	T	F	S	Period
July	3	4	5	6	7	8	9	1
	10	11	12	13	14	15	16	
	17	18	19	20	21	22	23	
	24	25	26	27	28	29	30	
Aug.	31	:	:	:	:	:	:	2
	:	1	2	3	4	5	6	
	7	8	9	10	11	12	13	
	14	15	16	17	18	19	20	
	21	22	23	24	25	26	27	
Sept.	28	29	30	31	:	:	:	3
	:	:	:	:	1	2	3	
	4	5	6	7	8	9	10	
	11	12	13	14	15	16	17	
	18	19	20	21	22	23	24	
Oct.	25	26	27	28	29	30	:	4
	:	:	:	:	:	:	1	
	2	3	4	5	6	7	8	
	9	10	11	12	13	14	15	
	16	17	18	19	20	21	22	
Nov.	23	24	25	26	27	28	29	5
	30	31	:	:	:	:	:	
	:	:	1	2	3	4	5	
	6	7	8	9	10	11	12	
	13	14	15	16	17	18	19	
Dec.	20	21	22	23	24	25	26	6
	27	28	29	30	:	:	:	
	:	:	:	:	1	2	3	
	4	5	6	7	8	9	10	
	11	12	13	14	15	16	17	

Month	S	M	T	W	T	F	S	Period
Jan.	18	19	20	21	22	23	24	7
	25	26	27	28	29	30	31	
	1	2	3	4	5	6	7	
	8	9	10	11	12	13	14	
Feb.	15	16	17	18	19	20	21	8
	22	23	24	25	26	27	28	
	29	30	31	:	:	:	:	
	:	:	:	1	2	3	4	
	5	6	7	8	9	10	11	
Mar.	12	13	14	15	16	17	18	9
	19	20	21	22	23	24	25	
	26	27	28	29	:	:	:	
	:	:	:	:	1	2	3	
	4	5	6	7	8	9	10	
Apr.	11	12	13	14	15	16	17	10
	18	19	20	21	22	23	24	
	25	26	27	28	29	30	31	
	1	2	3	4	5	6	7	
May	8	9	10	11	12	13	14	11
	15	16	17	18	19	20	21	
	22	23	24	25	26	27	28	
	29	30	:	:	:	:	:	
	:	:	1	2	3	4	5	
June	6	7	8	9	10	11	12	12
	13	14	15	16	17	18	19	
	20	21	22	23	24	25	26	
	27	28	29	30	31	:	:	
	:	:	:	:	:	1	2	
	3	4	5	6	7	8	9	13
	10	11	12	13	14	15	16	
	17	18	19	20	21	22	23	
	24	25	26	27	28	29	30	

Fig. 3.—A Thirteen-Period Calendar

days accumulate and then inserting an extra week in the thirteenth period every five or six years depending upon whether there are one or two leap years in such an accumulation. The thirteenth period every five or six years is, therefore, not directly comparable with other periods without adjustment for the extra week. This plan of accumulating a week has the advantage of always starting a period on the same day of the week.[21]

The second method of accounting for the extra days is to include the extra day each year, or the two extra days in leap year, in the thirteenth period each year or in the first period of each year. One advantage of this plan is having the end of the thirteenth period coincide with the end of the Gregorian calendar year if

[21]M. B. Folsom, "Operating a 13-month Work Calendar, The Experience of Forty-eight Concerns," *Operating a Thirteen Month Work Calendar*, Financial Executives' Series: No. 26 (New York: American Management Association, 1928), pp. 26-27.

the thirteenth period has been selected to end in December. Adding the extra day or days to one period causes lack of direct comparability of this period with other periods unless proper adjustment is made for the extra day or days.[22]

In replies to a questionnaire sent several years ago to thirteen-period calendar users, some advantages of the plan were given as follows:[23]

1. More accurate cost and production records.
2. Assists in budgeting.
3. The advantage of having every closing on the same day of the week.
4. The advantage of having the end of the week coincide with the end of the period.
5. Avoids necessity for splitting payroll.
6. There is a more exacting balance between payroll, sales, costs, etc.
7. Periods are comparable because of uniform length.
8. Gives more efficient planning of clerical help in closing books, due to definite scheduling of work.

While the thirteen-period calendar has many ardent proponents, there are also those who find certain disadvantages with the plan. A few of the disadvantages advanced by both users and non-users of the thirteen-period calendar have been summarized as follows:[24]

1. To the industrial accountant, it does not correct the variation in the number of work days in each period caused by the general observance of six legal holidays each year.
2. Thirteen periods mean an additional closing of the books of account and/or the preparation of an additional group of operating reports.
3. Even though salaries may be handled so that payment is made on the basis of thirteen pay periods, contractual services and other expenses involving outside agencies will continue to become due on fixed days of the month without regard to a thirteen-period calendar basis.
4. Where monthly or quarterly reports are required for stockholders and for the ever-increasing number of governmental agencies, adjustments must be made so that the report conforms to the Gregorian calendar.

The foregoing procedural methods and the review of certain advantages and disadvantages of the thirteen-period calendar have been based upon opinions of calendar reform authorities and upon

[22] *Ibid.*, p. 27.
[23] *Ibid.*, pp. 31-33.
[24] *Supra*, note 16, pp. 804-805.

the recommendations and opinions of business firms or their representatives. Observations and opinions of the author are given in the concluding section which follows.

CONCLUSION

The Gregorian calendar with its irregularities does not serve adequately as a basis for accurately measuring and interpreting the results of modern business operations. Some method of reforming or modifying the Gregorian calendar is desirable, and perhaps, even necessary in certain cases, to make sound business decisions.

Universal adoption of a reformed calendar appears to be the best solution to correcting some of the defects in our present calendar. The proposed thirteen-month calendar would be more beneficial than the World Calendar from the business point of view in the preparation of comparative financial and statistical reports since months are of equal length and have an equal number of the days of the week. Also, the thirteen-month calendar would facilitate the use of smaller capital investments since the rate of collection on accounts receivable that normally are collected monthly would tend to be accelerated from twelve collections a year to thirteen collections a year. However, the likelihood of universal adoption seems somewhat remote since such proposals have been under consideration for many years without any definite decisions having been reached.

In the absence of a universally adopted reformed calendar, business enterprises can obtain the benefits of comparability on interim statements and the non-splitting of at least some weekly data by using a thirteen-period calendar superimposed upon the Gregorian calendar. The plan adopted can serve as the basis for the sole accounting system, or can serve as the basis for internal accounting. Inconveniences, if any, caused by using either of these two general plans of the thirteen-period calendar seem to be outweighed by the comparability of the data obtained upon which sound managerial decisions can be based.

The advantages obtained by using a thirteen-period calendar plan have been reviewed rather extensively in preceding sections. The advantages of the plan seem quite apparent without any additional elaboration. The following paragraphs emphasize evaluations of and possible solutions to the cited disadvantages of the plan.

Restating thirteen-period data to the Gregorian calendar basis, when required, would seem to be no more of a momentous task than the present practice of splitting weekly data under the Gregorian calendar. Some currently required federal and state reports, such as payroll reports, are required quarterly and annually based upon payroll paid rather than upon payroll earned. Following the Gregorian calendar under the common accrual method of accounting requires restatement of accrued monthly data to present it on a Gregorian quarterly or annual basis for payroll tax reports. When either the Gregorian or the thirteen-period calendar is used with the accrual method of accounting, it necessitates the keeping of payroll data in terms of both payroll earned and payroll paid.

The suggested disadvantages or handicap caused by a thirteen-period calendar user dealing with customers and suppliers who are on the Gregorian calendar basis seems to be one possible obstacle to the use of a thirteen-period calendar. However, one manufacturer started using the thirteen-period calendar plan in 1892 and converted the surrounding community to using the plan or recognizing the plan in dealing with others who used it or who were affected by its use.[25] The possible disadvantage of using the thirteen-period calendar appears to be a major obstacle only in certain areas of operation.

In dealing with outside agencies on the Gregorian calendar basis, a problem may arise in the determination of expenses when their amount is not known or determinable until the billing is received from the supplier. This problem can be solved by estimating the expense at the date it must be taken into consideration for preparation of statements and reports and subsequently adjusting it to actual cost. A similar practice is already quite common among the cost accountants who use pre-determined rates in arriving at current costs.

An obstacle might also arise with the accounts receivable phase of operations where the recipients of merchandise or service are on the Gregorian calendar basis and pay their accounts monthly following the periodic billing. The problem arises in determining when to bill such a customer or client so as not to cause him any great inconvenience or confusion in his accounting. An apparently satisfactory solution would be to send out statements to them on the regular calendar basis and to close the receivable ledgers on

[25]L. J. Stewart, "Adventages of the 13-Month Calendar," *Operating a Thirteen-Month Work Calendar*, Financial Executives' Series: No. 26 (New York: American Management Association, 1928), p. 6.

the period-basis for proper determination of financial statement information. By keeping the accounts on a cumulative basis, it would facilitate the determination of accounts receivable balances and income earned data on the period basis, and also, at any desired billing date, the amount to bill the debtor. Of course, debtors could be billed every twenty-eight days to coincide with the end of the thirteen accounting periods. It is difficult to see where this method of billing could cause any more confusion than the cycle billing plans presently followed by some enterprises without regard to the calendar plan being followed by the debtors.

If the thirteen-period calendar basis appears to be not useable as the sole accounting basis because of the relationship with debtors and/or creditors, the plan can be used for internal use only. This would involve additional work, but the benefit of comparable data could be obtained. As an internal plan, it also can be used to advantage in crucial areas of business operations, such as in sales or in an element of production cost, without using it in all areas of operation.

The thirteen-period calendar supplies accounting data that are comparable without adjustment except for holidays and the extra day or days above the 364 days accounted for under this plan. This is one of the cited disadvantages of the plan, especially from the viewpoint of industrial accountants. While this is an admitted and constant disadvantage of the plan, it is neither impossible nor difficult to recognize the effect that these days may have on a given variance that may appear in a comparative analysis. By eliminating the effect of these days from the variance, there remains a variance that can be analyzed in terms of causes without any further consideration of calendar irregularities. One large manufacturer has solved the holiday and extra day problem by dividing its year into eleven periods of twenty-one working days and one period of fourteen working days. This avoids variances caused by the extra day or days, the six legal holidays observed, and the two-week vacation shutdown of the manufacturing plant.[26] While this is not a thirteen-period calendar plan, it does show another attempt to correct the shortcomings of the present Gregorian calendar and shows that the effect of special days can be eliminated or isolated.

Lack of comparable accounting data develops in the first year or in the initial years when changing to the thirteen-period calendar

[26]*Supra,* note 16, p. 806.

plan. However, it is not impossible to restate the final year or years of Gregorian calendar data in terms of the new thirteen-period plan and thereby have comparable data available for any periods desired.

As mentioned previously, it is already common practice for some corporations to prepare all financial reports, including reports to stockholders, on the thirteen-period basis. The 1954 Internal Revenue Code, for the first time in federal income taxation, officially recognizes the thirteen-period calendar basis of reporting accounting data. This step possibly will lead to the recognition of the thirteen-period calendar for additional purposes, and perhaps lead to some alternate method of reporting in lieu of quarterly reporting. This recognition also may encourage many firms now using the thirteen-period plan for internal use only, to adopt the plan as the basis for their sole accounting system.

The thirteen-period plan is almost a necessity in scientifically interpreting operating results of those businesses where extreme fluctuations in quantity of production or sales are directly related to the days of the week. Such businesses include the grocery, bakery, theater, laundry, and hotel enterprises who experience definite trends of business volume based upon days of the week. Manufacturing enterprises use the plan to allocate overhead costs in an equitable manner, as well as a plan to control production and sales. The thirteen-period plan offers so many advantages and has so many ardent advocates that the plan appears to be destined for even greater use in the future.

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